Lab Assignment

Cybersecurity Professional Program

Introduction to Python for Security

File System & Error Handling

PY-04-L2

Error Handling

Lab Objective

Understand how error detection and handling control code execution.

Lab Mission

Practice handling error conditions that may occur in Python code.

Lab Duration

15–20 minutes

Requirements

- Working knowledge of basic programming
- Working knowledge of exception handling

Resources

- Environment & Tools
    - Windows
        - PyCharm
        - Python 3

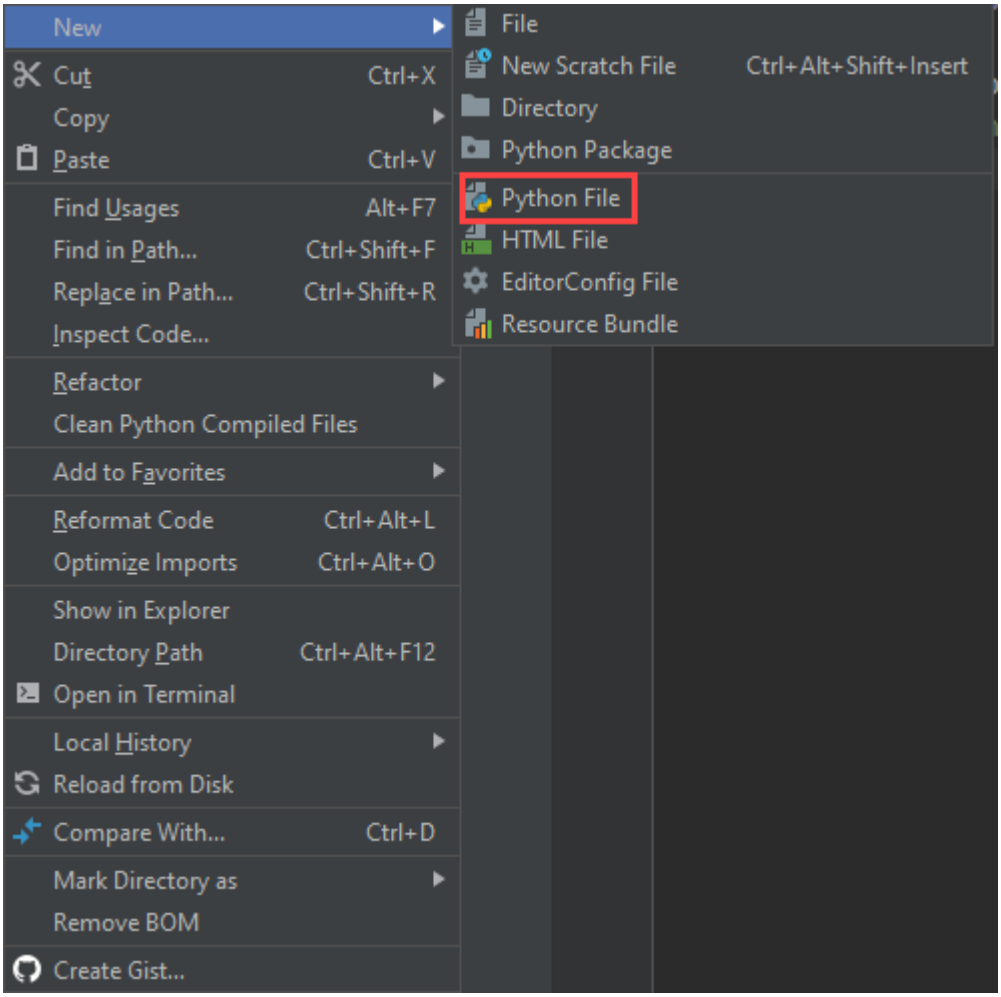
Textbook References

- Chapter 4: File System and Error Handling
    - Section 1: Error Handling

Lab Task: Product Calculation in Python

Write a program that calculates the product of four numbers provided by the user and prints the result. Use ***try*** and ***except*** statements to ensure that the program will not fail when the input is not a valid number.

1 Create a new Python file in PyCharm by right-clicking the project you created and selecting **New** > ***Python File***.



2 Declare the variable ***product*** and assign it an integer value of *1*.

```
product = 1
```

3 Create a ***for*** loop that performs four iterations.

```
product = 1
for i in range(4):
```

4 In the ***for*** loop, ask the user to provide a number, cast that number to an integer, and assign it to a new variable. Multiply each input by the ***product*** variable and assign the result to the same variable.

```
product = 1
for i in range(4):
    num = int(input("Enter a number: "))
    product *= num
```

5 Place the user input and mathematical operation in a ***try*** block. Make sure that you use indentation when placing it in the ***try*** block.

```
product = 1
for i in range(4):
    try:
        num = int(input("Enter a number: "))
        product *= num
```

6 Create an ***except*** block that prints a message to the console when user input is a non-integer.

```
product = 1
for i in range(4):
    try:
        num = int(input("Enter a number: "))
        product *= num
    except :
        print("The input is not a valid number")
```

7 Run the code from Step 6, input an integer, then input a non-integer, and observe the results.
The last input, as shown below, is a non-integer. The error is caught by the ***except*** statement in the ***try*** block and triggers the invalidation message to appear.

```
Enter a number: 4
Enter a number: 3
Enter a number: 2
Enter a number: A
The input is not a valid character
```

8 Add a line to print the four numbers' product and cast the ***integer*** to a string.

9 Rerun the code, but this time input integers only. Observe the results.

```
product = 1
for i in range(4):
    try:
        num = int(input("Enter a number: "))
        product *= num
    except:
        print("The input is not a valid number")
print("The product of the 4 numbers is: "+ str(product))
```

```
Enter a number: 4
Enter a number: 3
Enter a number: 2
Enter a number: 1
The product of the 4 numbers is: 24
```